

Amendments to the Claims: This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) A volumetric metering device for the metered delivery of granular and powdery materials, particularly for machines for distributing ~~the said such~~ materials, comprising a housing ~~(10)~~ formed in a single piece and a metering member ~~(20)~~ supported rotatably in the housing, ~~characterized in that the housing is formed in a single piece.~~

2. (Currently Amended) ~~A~~The device according to ~~C~~claim 1 in which the housing ~~(10)~~ is moulded of plastics material.

3. (Currently Amended) A volumetric metering device for the metered delivery of granular and powdery materials, particularly for machines for distributing ~~the said such~~ materials, comprising:

a housing ~~(10)~~ having juxtaposed openings each with a dimension; and

a metering member ~~(20)~~ supported rotatably in the housing, characterized in that the metering member (20) comprises having at least one metering wheel ~~(26)~~ clamped between a pair of flanges ~~(27)~~, the dimension of at least one housing comprising juxtaposed openings (18) of the housing at least one of which has dimensions such as to allowing the metering member, complete with the at least one metering wheel ~~(26)~~ and the flanges, to pass from and towards the housing, at least one of the flanges being arranged to close the respective opening when the metering member is fitted in the operative position in the housing, and ~~constituting means for the providing~~ rotatable support of the metering member in the housing.

4. (Currently Amended) ~~A~~The device according to ~~C~~claim 3 in which both of the openings ~~(18)~~ have dimensions such as to allow the metering member ~~(20)~~, complete with the at least one wheel ~~(26)~~ and the flanges ~~(27)~~, to pass from and towards the housing, both of the flanges being arranged to close the respective openings when the metering member is fitted in the operative position in the housing, and ~~constituting means for the providing~~ rotatable support of the metering member in the housing.

5. (Currently Amended) ~~A~~The device according to ~~E~~claim 3 or Claim 4 in which the flanges ~~(27)~~ carry peripherally at least two rolling tracks ~~(29a, 29b)~~ for at least one bearing or wheel ~~(30a, 30b, 30c)~~, a shoulder being defined between the tracks, and the at least one bearing or wheel being restrained on the housing ~~(10)~~ for the rotatable support of the metering member ~~(20)~~ and for the axial restraint thereof, ~~by means of~~ via the shoulder.

6. (Currently Amended) ~~A~~The device according to ~~E~~claim 5 in which at least one of the bearings or wheels ~~(30a)~~ is removable from the housing to allow the metering member to be moved away from and towards the housing.

7. (Currently Amended) A volumetric metering device for the metered delivery of granular and powdery materials, particularly for machines for distributing ~~the said~~ such materials, comprising a metering member ~~(20)~~, characterized in that the metering member includes ing a plurality of metering wheels ~~(26)~~ which are structurally independent of one another and are interposed in a group between a pair of flanges ~~(27)~~, and a shaft ~~(21)~~ acting as a tie between the flanges in order to clamp in a group the flanges and the metering wheels interposed between them, to constitute a unit which can be handled individually.

8. (Currently Amended) ~~A~~The device according to ~~E~~claim 7 in which the shaft ~~(21)~~ comprises, at one of its ends, a joint ~~(22)~~ for connection to a drive shaft.

9. (Currently Amended) ~~A~~The device according to ~~E~~claim 7 or Claim 8 in which the shaft ~~(21)~~ has means for clamping the group of flanges and wheels at the end remote from the joint ~~(22)~~, the joint ~~(22)~~ acting as an abutment shoulder for the clamping.

10. (Currently Amended) ~~A~~The device according to ~~any one of E~~claims 7, 8 and 9, in which the shaft ~~(21)~~ has a polygonal cross-section.

11. (Currently Amended) ~~A~~The device according to ~~E~~claim 10 in which each of the metering wheels ~~(26)~~ has a hub ~~(37)~~ having a hole ~~(37a)~~ of polygonal cross-section which can be configured to be coupled with the polygonal cross-section of the shaft.

12. (Currently Amended) ~~A~~The device according to ~~E~~claim 11 in which the holes ~~(37a)~~ in the hubs of the metering wheels have channelled profiles ~~in which the channels have profiles which can be configured for coupling~~ ing with the profile of the shaft ~~(21)~~ and the

number of channels is a multiple of the number of sides of the shaft so as to permit various angular positionings of the metering wheels on the shaft.

13. (Currently Amended) A volumetric metering device for the metered delivery of granular and powdery materials, particularly for machines for distributing ~~the said such~~ materials, comprising a metering member ~~(20)~~ carrying a plurality of metering wheels ~~(26)~~ having blades ~~(36)~~ and clamped together in a group, characterized in that the blades have ing appendages ~~(38)~~ by means of which restraining the blades of one wheel are restrained on the blades of the adjacent wheel.

14. (Currently Amended) ~~A~~The device according to ~~E~~cclaim 13 in which ~~further comprising a disc (28) having holes (39) for the appendages, the disc (38) is being~~ interposed between adjacent metering wheels ~~(26)~~, ~~the disc (28) and~~ constituting an interconnection element between the blades ~~(36)~~ of adjacent wheels.

15. (Currently Amended) ~~A~~The device according to ~~E~~cclaim 14 in which the disc ~~(28)~~ has seats ~~(39)~~ for the appendages ~~(38)~~, the seats being offset relative to one another to permit an angularly offset interconnection of the sets of blades of adjacent wheels.

16. (Currently Amended) ~~A~~The device according to ~~one or more of E~~cclaims ~~13 to 15~~ in which the metering wheels ~~(26)~~ can be interchanged, ~~and/or combined, or both~~ interchanged and combined with wheels of different dimensions ~~(26a, 40)~~.

17. (Currently Amended) A volumetric metering device for the metered delivery of granular and powdery materials, particularly for machines for distributing ~~the said such~~ materials, comprising a metering member ~~(20)~~ with having metering wheels ~~(40)~~ clamped in a group and keyed to a common drive-transmission shaft ~~(21)~~, characterized in that and selective drive-transmission means ~~(41)~~ are interposed between the wheels and the shaft in order to exclude the wheels from driving by the shaft or, conversely, to connect the wheels for driving by the shaft.

18. (Currently Amended) ~~A~~The device according to ~~E~~cclaim 17 in which the metering wheels ~~(40)~~ are mounted reversibly on the shaft ~~(21)~~ and the selective drive-transmission means comprises a release mechanism ~~(41)~~ which brings about the driving connection between wheels and shaft in a first mounting condition and disconnection between

wheels and shaft in a second mounting condition, in which the metering wheels are turned through 180° relative to the first mounting condition.

19. (Currently Amended) ~~A~~The device according to ~~Claim 18~~ or ~~Claim 18~~ in which ~~further comprising a scraper means (50) are provided, and are active on the wheels (40)~~ individually to remove deposits therefrom.

20. (Currently Amended) ~~A~~The device according to ~~Claim 19~~ in which the scraper ~~means~~ comprises a plurality of resilient bows ~~(51)~~ each active on the respective wheel ~~(40)~~ individually.

21. (Currently Amended) ~~A~~The device according to ~~Claim 19~~ or ~~Claim 20~~ in which the scraper ~~means (50) are~~ is movable relative to the metering member ~~(20)~~ between an operative position in which they ~~scraper is~~ are active on the wheels ~~(40)~~ and an inoperative position in which they ~~scraper is~~ are spaced therefrom.

22. (Currently Amended) ~~A~~The device according to ~~one or more of Claims 19~~ ~~to 21~~ in which the scraper ~~means (50)~~ and the metering wheels ~~(40)~~ comprise a mutual engagement means ~~(52, 54)~~ for restraining the metering wheels in a stationary position when they are excluded from driving by the shaft.

23. (Currently Amended) ~~A~~The device according to ~~Claim 22~~ in which the mutual engagement means comprises a crosspiece ~~(52)~~ on each scraper ~~(51)~~ and at least one tooth-like element ~~(54)~~ on each metering wheel, the tooth-like element defining a leading face ~~which can engage~~ ing the crosspiece when the metering wheel is oriented in the second mounting condition and defining an inclined rear face ~~(55)~~ which ~~can~~ slides relative to the crosspiece when the metering wheel is oriented in the first mounting condition.

24. (Currently Amended) A volumetric metering device for the metered delivery of granular and powdery materials, particularly for machines for distributing ~~the said~~ such materials, comprising:

a housing ~~(10)~~;

a metering member ~~(20)~~ supported rotatably in the housing ~~;~~ and

a feeler device (16) mounted in the housing and active in the manner of a scraper blade with a lip (67) thereof operative on the metering member, ~~characterized in that:~~

restraining means (63) active on the feeler device ~~in order to keep it for~~
maintaining a predetermined distance between the feeler device and ~~from~~ the metering member; ~~and~~

a resilient preloading mechanism (64) active on the feeler device in order to press its operative lip towards the metering member with predetermined preloading, ~~are provided.~~

25. (Currently Amended) ~~A~~The device according to ~~C~~laim 24 in which the feeler device comprises a plurality of feeler elements (60) active individually and independently on respective corresponding metering wheels (26) of the metering member (20).

26. (Currently Amended) ~~A~~The device according to ~~C~~laim 25 in which the feeler elements (60) are articulated pivotably by their respective ends remote from the operative lip (67) on a shaft (61) fixed to the housing (10), and means are provided for limiting their pivoting relative to the shaft.

27. (Currently Amended) ~~A~~The device according to ~~C~~laim 26 in which the means for limiting pivoting comprises, at the end corresponding to the operative lip, a fork-shaped element (62) between the prongs of which a second shaft (63) is housed with predetermined clearance.

28. (Currently Amended) A volumetric metering device for the metered delivery of granular and powdery materials, particularly for machines for distributing ~~the said~~such materials, comprising

a housing (10);

a metering member (20) supported rotatably in the housing; ~~and~~

a feeler device (16) mounted in the housing and active in the manner of a scraper blade with a lip (67) thereof operative on the metering member, ~~characterized in that it comprises;~~ and

means for altering locally the angle of introduction between the feeler device (16) and the metering member, the means being associated with the feeler device, immediately upstream of the operative lip.

29. (Currently Amended) ~~A~~The device according to ~~E~~claim 28 in which the feeler device comprises a plurality of feeler elements (60) active individually and independently on respective corresponding metering wheels (26) and the means for altering the angle of introduction comprises a plurality of separators (68) interposed between the feeler elements and each having a nib (69) projecting towards the metering device.

30. (Currently Amended) ~~A~~The device according to ~~one or more of the preceding~~ claims 29 in which the housing has an input and a region including an output opening and the device further comprises first flow-separator means (70) ~~are provided, disposed~~ in the region of ~~an~~the output opening (15) ~~from of~~ the housing (10).

31. (Currently Amended) ~~A~~The device according to ~~E~~claim 30 in which the first separator means ~~are of the type comprising~~ing a fixed plate (70) supported, by means of notches (71), on shafts (72, 73) extending between side walls (17) defined in the housing, the plate having, on the side facing the metering member (20), an arcuate profile (74) complementary with the outer surface of a toothless wheel (75) which is fitted centrally between the metering wheels (26).

32. (Currently Amended) ~~A~~The device according to ~~Claim 30 or E~~claim 31 in ~~which further comprising~~ second separator means (76) ~~are disposed~~ in the housing (10) upstream of the metering member so as to separate products, which may optionally be different, at the input.

33. (Currently Amended) ~~A~~The device according to ~~E~~claim 32 in which the second separator means comprises a fixed plate (76) ~~provided with~~having an arcuate profile (77) complementary with the surface of the toothless wheel (75).

34. (New) The device according to claim 3 in which the at least one metering wheel can be interchanged, combined, or both interchanged and combined with wheels of different dimensions.

35. (New) The device according to claim 7 in which the metering wheels can be interchanged, combined, or both interchanged and combined with wheels of different dimensions.

36. (New) The device according to claim 1 in which the housing has an input and a region including an output opening and the device further comprises first flow-separator means disposed in the region of the output opening of the housing.

37. (New) The device according to claim 36 in which the first separator means comprises a fixed plate supported, by notches, on shafts extending between side walls defined in the housing, the plate having, on the side facing the metering member, an arcuate profile complementary with the outer surface of a toothless wheel which is fitted centrally between metering wheels of the metering member.

38. (New) The device according to claim 37 further comprising second separator means disposed in the housing upstream of the metering member so as to separate products, which may optionally be different, at the input.

39. (New) The device according to claim 38 in which the second separator means comprises a fixed plate having an arcuate profile complementary with the surface of the toothless wheel.

40. (New) The device according to claim 3 in which the housing has an input and a region including an output opening and the device further comprises first flow-separator means disposed in the region of the output opening of the housing.

41. (New) The device according to claim 40 in which the first separator means comprises a fixed plate supported, by notches, on shafts extending between side walls defined in the housing, the plate having, on the side facing the metering member, an arcuate profile complementary with the outer surface of a toothless wheel which is fitted centrally between metering wheels of the metering member.

42. (New) The device according to claim 41 further comprising second separator means disposed in the housing upstream of the metering member so as to separate products, which may optionally be different, at the input.

43. (New) The device according to claim 42 in which the second separator means comprises a fixed plate having an arcuate profile complementary with the surface of the toothless wheel.

44. (New) The device according to claim 7 further comprising a housing having an input and a region including an output opening, and first flow-separator means disposed in the region of the output opening of the housing.

45. (New) The device according to claim 44 in which the first separator means comprises a fixed plate supported, by notches, on shafts extending between side walls defined in the housing, the plate having, on the side facing the metering member, an arcuate profile complementary with the outer surface of a toothless wheel which is fitted centrally between the metering wheels of the metering member.

46. (New) The device according to claim 45 further comprising second separator means disposed in the housing upstream of the metering member so as to separate products, which may optionally be different, at the input.

47. (New) The device according to claim 46 in which the second separator means comprises a fixed plate having an arcuate profile complementary with the surface of the toothless wheel.

48. (New) The device according to claim 13 further comprising a housing having an input and a region including an output opening, and first flow-separator means disposed in the region of the output opening of the housing.

49. (New) The device according to claim 48 in which the first separator means comprises a fixed plate supported, by notches, on shafts extending between side walls defined in the housing, the plate having, on the side facing the metering member, an arcuate profile complementary with the outer surface of a toothless wheel which is fitted centrally between the metering wheels of the metering member.

50. (New) The device according to claim 49 further comprising second separator means disposed in the housing upstream of the metering member so as to separate products, which may optionally be different, at the input.

51. (New) The device according to claim 50 in which the second separator means comprises a fixed plate having an arcuate profile complementary with the surface of the toothless wheel.

52. (New) The device according to claim 17 further comprising a housing having an input and a region including an output opening, and first flow-separator means disposed in the region of the output opening of the housing.

53. (New) The device according to claim 52 in which the first separator means comprises a fixed plate supported, by notches, on shafts extending between side walls defined in the housing, the plate having, on the side facing the metering member, an arcuate profile complementary with the outer surface of a toothless wheel which is fitted centrally between the metering wheels of the metering member.

54. (New) The device according to claim 53 further comprising second separator means disposed in the housing upstream of the metering member so as to separate products, which may optionally be different, at the input.

55. (New) The device according to claim 54 in which the second separator means comprises a fixed plate having an arcuate profile complementary with the surface of the toothless wheel.

56. (New) The device according to claim 24 in which the housing has an input and a region including an output opening and the device further comprises first flow-separator means disposed in the region of the output opening of the housing.

57. (New) The device according to claim 56 in which the first separator means comprises a fixed plate supported, by notches, on shafts extending between side walls defined in the housing, the plate having, on the side facing the metering member, an arcuate profile complementary with the outer surface of a toothless wheel which is fitted centrally between metering wheels of the metering member.

58. (New) The device according to claim 57 further comprising second separator means disposed in the housing upstream of the metering member so as to separate products, which may optionally be different, at the input.

59. (New) The device according to claim 58 in which the second separator means comprises a fixed plate having an arcuate profile complementary with the surface of the toothless wheel.